## พื่อrk Order ID 81401

\*81401\*

Page 2

March-14-12 7.	48:06 AM										
Item ID: Revision ID:	D350-636-0		D/I	Accept	*N900	0040	100	ገ* ፡	Setup Star Stop	1/1	S1*
Item Name: Start Date: Required Date: Reference:	13/03/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1: *1:		Cust Item Customer:				333	^N	SZ*
Approvals:		ın:	Date:			Date:		. Б	Run Star Stop	1/1	R1* R2*
Sequence ID/ Work Center II 110 *110* Skidtubes Skidtubes		AFT end per 3- Drill pilot deburr, sective 4- Locate D'fitting, sective 5- Drill fwd per dwg D4: 6- Drill pilot Jig DT8150	WD and AFT ends, red dwg D4168  Tholes for blade fitting on R-R  Step holes using DT9  68 Detail J  Tholes as per Dwg D0  Choles as per Dwg D0	Set Up/ Run Hours 0.00  0.00  emove bending marks. Scribe bending bolt holes using DT8983. Operating bolt holes and drill pilot holes. Ensure proper positioning the state of	oles for blade  g. All holes as  Drill using drill I side (detail K)	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
		9-Open up h side and ope	oles of Detail J to 0.3 n holes of detail M s	e using DT9678 locating of 66.297" (total of 2 holes per side) ection R-R to 0.500" as per dw.  D4168 and QSI 004.Fill groov.	+ 201 iplace per g D4168	125					. /

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NCR:			WORK ORDI	ER NON-CONFORMA	NCE (NCR	3)	***	· · · · · · · · · · · · · · · · · · ·
DATE	OTED	Description of NC		Corrective Action Section		Verification	Approval	Approva
DATE	STEP	Section A	Initial Chief Eng	Action Description  Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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Work Order ID 81401 March-14-12 7:48:06 AM D350-636-016 Accept Item ID: \*N900040100\* Setup Start **Revision ID:** Skidtube STD w/ Training Wearplates, RH Item Name: 13/03/2012 Start Qty: 1.00 **Start Date:** Cust Item ID: **Required Date:** 27/03/2012 **Reg'd Qty:** 1.00 **Customer:** Reference: Run Process Plan: Date: **Tooling:** Date:\_\_\_\_\_ Approvals: Date: SPC(Y/N): Date: Tool ID Reject Sequence ID/ **Operation** Set Up/ Tool # Plan Accept Reject Insp. **Work Center ID** Description Code Qty Qty Number Stamp **Run Hours** 12-03-26 11-Grind welds flush as per Dwg D4168 120 QC10- Inspect visual per QSI004- ground welds \*120\* Memo Quality Control

130

\*130\* QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

8,2/3/27

Page 3

W/O:		id	WC	RK ORDER C	HANGES					
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Work Order ID 81401 Page 4 March-14-12 7:48:06 AM Item ID: D350-636-016 Accept \*N900040100\* **Revision ID:** Item Name: Skidtube STD w/ Training Wearplates, RH Start Qty: 1.00 **Start Date:** 13/03/2012 **Cust Item ID:** Req'd Qty: 1.00 **Required Date:** 27/03/2012 **Customer:** Reference: Run Process Plan: **Tooling: Approvals:** Date: Date: QC: SPC (Y/N): Date: Date: Tool # Plan Sequence ID/ Set Up/ Tool ID Accept Reject Reject Operation Insp. **Work Center ID** Description Code Qty Qty Number Stamp **Run Hours** 140 Chemical Conversion Coat per OSI005 4.1 0.00 \*140\* HandFinish 0.00 Memo Hand Finishing

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**Quality Control** 

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-QC3-Inspect Part Finish

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Work Order ID 81401 Page 5 March-14-12 7:48:06 AM D350-636-016 Item ID: Accept \*N900040100\* **Revision ID:** Skidtube STD w/ Training Wearplates, RH Item Name: **Start Date:** 13/03/2012 Start Qty: 1.00 **Cust Item ID: Required Date:** 27/03/2012 Req'd Qty: 1.00 **Customer:** Reference: Run Process Plan: Approvals: Date: Tooling: Date: Date: SPC (Y/N): Date: Sequence ID/ **Operation** Tool ID Tool # Plan Set Up/ Accept Reject Reject Insp. Work Center ID Description Code Qty Number Stamp **Run Hours** Otv 160 0.00 Skidtubes \*160\* Skidtubes 0.00 Memo Skidtubes 1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per as per dwg D4168. 2-Open up holes of Detail K to 0.750" (total of 4 holes per side) as per dwg D4168. 3<sup>2</sup> Open float hole to 0.500" (4 per side) 4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168 (welding instructions on sheet 9) 5-Deburr and blow out all chips from inside of tube 6- Prepare tube for welding, remove alodine as required. 7-Bond web D2739 in place as per QSI 015. A/R Sikaflex-291 batch: \20812 exp. date: 2012/08 8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004 (welding instructions on sheet 8) A/R Aluminum Rod batch: M/20/64 9- At section AP-AP drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D4168

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Section A Initial Chief Eng Chief Eng Chief Eng Section C Chief Eng QC Inspector

March-14-12	7:48:06 AM							
Item ID: Revision ID:	D350-636-03	16		Accept	*N9000	140100*	Setup Star	14.71
Item Name:	Skidtube STD	w/ Training Wearplates	s, RH				Stop	*NS2*
Start Date: Required Date	13/03/2012 2: 27/03/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item ID Customer:	:		
Reference:							Run Star	f
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	<b>QC:</b>		Date:	SPC (Y/N):	Date	e:	Stop	*NR2*
Sequence ID/ Work Center	ID	Operation Description		Set Up/ Run Hours	~~	Tool # Plan Acc Code Qty	cept Reject y Qty	Reject Insp. Number Stamp
	<i>.</i> *	dwg D4168		ection (total of 4 places pe	er side) as per	12/03/29		
		12- C'bore s 13- Deburr I	ection CH-CH	12-	7-4	2 12/22/2		
			FOR DELUXE SKIDTU UBE ********	BE IF APPLICABLE DRI	ILL TOW RING	149/25	f:	
170		QC10- Inspect visual per	QSI004- ground welds	0.00	, I			1 1 3
*170* QC Quality Control		Memo		0.00	velay			
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Quality Control

QC3- Inspect Part Finish

Memo

Inspect for foreign object per QSI 024

<b>Work Order ID 81401</b> <i>March-14-12 7:48:06 AM</i>			*81401*							Page 7	
Item ID: Revision ID: Item Name:	D350-636-0 Skidtube STD	16 w/ Training Wearplates	s, RH	Accept	*N900	<b>04</b> 0	100	<b>)</b> * s	etup Si		*NS1* *NS2*
Start Date: Required Date: Reference:	13/03/2012 27/03/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item I Customer:	D:					
Approvals:		in:				ite:		R		top	*NR1* *NR2*
Sequence ID/ Work Center II 190 *100* HandFinish Hand Finishing	D	Operation Description Pressure Wash per QS100  Memo Re-alodine to	05 4.3 . ube as per QSI 005 section	Set Up/ Run Hours 0.00 0.00 14.1.2.1 do not acid etch	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty		iect Insp. mber Stamp
200 *200* Powdercoat Powder Coating		White Gloss(Ref:4.3.5.1)  Memo START TIM OVEN TEM	per QS1005 4.3-Alum  1E: 21.30  IPERATURE: 320 F	0.00 0.00 M	26222			_(	8	_ (2	DB 12/04/04

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Item Name:	Skidtube STD	w/ Training Wearplate	s, RH							Stop	*N	S2*	
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Sequence ID/ Work Center II	)	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp	
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* <b>77</b> 0* HandFinish		HandFinishing		0.00				1 BH	4	) مريد د مايد	$\mathcal{H}_{-a}$	(04/0.	5
Hand Finishing		Memo 1- Install in	serts as per Dwg D4168	0.00					,			į	عد
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*230*		HandFinishing						1 12t	1	d	U	nlou	6
HandFinish		Memo		0.00									
Hand Finishing		_	or Foreign Objects	. 1.0									
		2-Spray ins	ide of tube with "LPS-3"	batch: N (1/4									
		3-Install bla per dwg D4 SIKA FLEX BATCH:I EXP DATE	(1/1/20318	arshoes and ground handli	ng hardware as								
		4-assemble A/R 55-o'ri	o'ring to plug as per dwg I ing lube batch: 人人 (	D3492 and apply o'ring lu	be								
		5-Coat all e	xposed fasteners with "LP	S Procyon" batch: 1	114596								

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\*\*\*\*\*ensure antiseize is on AN8C21A bolts\*\*\*\*\*

Page 9

March-14-12 7:48:06 AM Item ID: D350-636-016 Accept \*N900040100\* Setup Start **Revision ID:** Skidtube STD w/ Training Wearplates, RH Item Name: Start Qty: 1.00 **Start Date:** 13/03/2012 **Cust Item ID: Required Date:** 27/03/2012 **Req'd Qty:** 1.00 **Customer:** Reference: Run **Approvals: Process Plan:** Date: Tooling: Date: Date: \_ \_\_\_\_ SPC (Y/N): Date: Sequence ID/ Tool ID Reject Operation Set Up/ Tool # Plan Accept Reject Insp. **Work Center ID** Qty Stamp **Description Run Hours** Code **Qty** Number 240 QC5- Inspect part completeness to step on W/O 0.00 \*240\* Sizlulps Memo **Quality Control** Pick Kit 250 0.00 P12-04-09. \*250\* 0.00 Packaging Memo Packaging If making a D350-636-216 pick kit will only requires: 1 X AN3C37A 1 X AN3C34A 1 X AN3C42A 2 X D3493-1 260 QC4- 100% Inspect kits for completeness 0.00

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March-14-12 7:48:06 AM D350-636-016 Item ID: Accept \*N900040100\* Setup Start **Revision ID:** Skidtube STD w/ Training Wearplates, RH **Item Name:** Start Qty: 1.00 **Start Date:** 13/03/2012 **Cust Item ID:** Req'd Qty: 1.00 **Required Date: 27/03/2012 Customer:** Reference: Run Process Plan: Date: **Tooling: Approvals:** Date: QC:\_\_\_ SPC (Y/N): Date: Date: Sequence ID/ Operation Tool ID Tool # Plan Reject Set Up/ Accept Reject **Work Center ID** Description Qty Number Stamp **Run Hours** Code Qty 270 0.00 Packaging \*270\* Packaging 0.00 Memo Packaging Identify and pack for shipping as per PPPD350-636-016 PPP rev: 280 QC21- Final Inspection - Work Order Release 0.00 CX 1217. MF 12-04-09 \*280\* 0.00 Memo Quality Control

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March-14-12 7:	48:10 A
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\*81401\*

D350-636-016

\*D350-636-016\*

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

**Start Date:** 13/03/2012

**Required Date: 27/03/2012** 

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP rev:A 10.09.28 new issue DD verf:EC

11.0

IPP Rev:B 10.18 as

per NCR 11-906 DD verf:EC

.04.14 ecn11-553 DD verf:EC	IPP Rev:C	11.10
NCR 11-906 DD verf FC		

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Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3490-1		Manufactured	No			160	Each	49.0000	4	4,			· / -
*D3490-1* Cross Bolt Spacer	•								**	£	2 Q K	BE 12/1	3/28
·				<u>Location</u>	<u>n</u>	Loc	Qty	Loc Code	//	•	$\Phi U$	170	79
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D3490-3		Manufactured	No			160	Each	38.0000	4	4			, ,
*D3490-3* Cross Bolt Spacer	•								**	<i>]</i>	DS	81 2201/0	= 12/03/d × 4
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AN3C34A		Purchased	No			230	Each	51.0000	1	1			
*AN3C34A	<b>/</b> *								**	<u>M</u>	12/0_	1105	
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Work Order ID: 81401  Parent Item: D350-636-016			1401* 350-636-0	146*			14
	w/ Training Wearplate	es, RH	มลอน-ถลถ-แ	in		ite: 13/03/2012	Required Date: 27/03/2012 Required Qty: 1.00
*AN3C36A*	Purchased	No		230 Each	158.0000 **	4 4 JU1	20405
			Location FG 101261 ST353 116590 119083 119324 120641 121013	Loc Oty  4  4  154  0  2  57  40  55	<u>Loc Code</u>	Χr	- - - -
*AN3C37A *AN3C37A*	Purchased	No	121013	230 Each	110.0000 **	1 1	12-04-09
			Location ST354 116874 117010 120422 120731	Loc Qty 110 11 2 47 50	Loc Code		- - - -
AN3C42A *AN3C42A* BOLT	Purchased	No		230 Each	43.0000 <b>**</b>	500	2-04-09
			Location ST354 106176 118131 119673 120464	Loc Oty 43 1 2 15 25	<u>Loc Code</u>		-

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Picklist Print March-14-12 7:48:10 AM					Page 3
Work Order ID: 81401  Parent Item: D350-636-016  Parent Item Name: Skidtube STD	w/ Training Wearplates, R	*81401* *D350-636-0	116*	Start Date: 13/03/2012 Start Qty: 1.00	Required Date: 27/03/2012 Required Qty: 1.00
D3488-042 *\(\bar{D}\)3488-\(\bar{A}\)2* Blade Fitting Assembly, RH	Manufactured	No	230 Each	19.0000 1 1 ** H.L.	12/04/07
D3492-1 *D3492-1* Plug	Manufactured	Location FP002 62003 75068 77015	Loc Qty 19 1 9 9 230 Each	130.0000 8 8 8 **	- - - - 12/09/05
D3492-3 *D3492-3*	Manufactured	Location FP002 69531 74444 76235 77037	Loc Oty 130 8 2 20 100 230 Each	69.0000 8 8 8 #*	
Plug		<u>Location</u> FP-A 78600	<u>Loc Oty</u> 69 69	Loc Code B81967 x 6	

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DATE	STEP	PRO	OCEDURE CHAP	IGE	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspector
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Part No	:	PAR #:	Fault Categ	jory:	NCR: Yes	No DQA:	Date: _	
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NCR:			WORK ORDE	R NON-CONFORMA	NCE (NCR)			
DATE	CTED	Description of NC		Corrective Action Section		Verification	Approval	Approval
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Work Order ID: 81401		*8	1401*						14
Parent Item: D350-636-016			350-636-0	716*					( (
	w/ Training Wearplates,	RH	1.5:3(1-(3.5(5-(	. ) ( ()		St	art Date:	13/03/2012	Required Date: 27/03/2012
						S	tart Qty:	1.00	Required Qty: 1.00
D3873-1	Manufactured	No		230	Each	228.0000	7	7	
*D3873-1*							**	B76=	191Wa) Miloulo
			Location	Loc C	<u>Oty</u>	Loc Code			
			ST057		182				_
			79561		182				~
			ST067		46				-
			64760		1				-
			68247 73829		4 19				-
			73830		2				-
			79560		20				<del>-</del> -
D4154-041	Manufactured	No		230	Each	2.0000	1	1	
*D4154-041* Wearplate Assembly							**	<u> </u>	12/04/05
			<b>Location</b>	Loc C	<u>Oty</u>	Loc Code			
			FG		2				_
			77007		2			X-	-
D4170-1	Manufactured	No		230	Each	13.0000	4	4	
*D4170-1*							**	to a second and a second secon	BE 12/03/28
			<b>Location</b>	Loc (	<u>Oty</u>	Loc Code			
			LG001		13				_
			71844		5				_
			76677		8				_
D4171-1	Manufactured	No		230	Each	9.0000	1	1	
*D4171-1* Bushing							**	M	17/01/05
			<u>Location</u>	Loc (	<u>Oty</u>	Loc Code			
			ST135		9				-
			77008		9			X	-

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DATE	STEP	PRO	OCEDURE CH		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Ca	tegory:	ICR: Yes	No DQ	A:	Date: _	- -
	R	esolution:	Disposit	ion: (	A: N/C (	Closed:		Date: _	·
NCR:		,	WORK OR	DER NON-CONFORMANO	CE (NC	R)			··
		Description of NC		Corrective Action Section B		Verifi	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date	& Sect	ion C	Chief Eng	QC Inspector
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Work Order ID: 81401		*8	140	 1*							J
Parent Item: D350-636-016  Parent Item Name: Skidtube STD w	// Training Wearplate	*[		-636-C	116*			tart Date: Start Qty:	13/03/2012 1.00	Required Date: 27/03/2012 Required Qty: 1.00	
MS21043-3	Purchased	No			230	Each	840.0000	4	4		
*MS21043-3*								**		12/04/0-5-	_
			Location	<u>on</u>	<u>1</u>	oc Qty	Loc Code				
		•	FG			72					
				103691		72			<del></del>	<del>_</del>	
			GA	120702		334				_	
			ST301	120693		334 434					
			31301	118077		2					
				11861 <u>4</u>		382			XL	<del>_</del>	
				118686		30				_ _	
				119758		20				_	
NAS1149C0363R	Purchased	No			230	Each	3,381.000	9	9	1	
*NAS1149C036:	3R*							**	M	12/04/05	
			Location	<u>on</u>	<u>L</u>	oc Qty	Loc Code				
	À		ST297			3381				_	
				114742		3381			X 4	_	
NAS1515H3L	Purchased	No			230	Each	184.0000	4	4	1	
*NAS1515H3I * WASHER								**	M	1100105	
			Location	<u>on</u>	L	oc Qty	Loc Code		•		
			FG			40			-	_	
				102472		40				_	
			ST277			144				_	
				118686 119438		3	•			<del></del>	
				119438 120072		1 40			X	_	
				120360		100		<b>k</b>	/\-	_	
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DATE	STEP	PR	OCEDURE CHAI	RK ORDER CHANGES	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspector
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	Date: _	
	Res	olution:	Disposition	1:	QA: N/C CI	osed:	Date: _	<u>:</u>
NCR:			WORK ORDE	R NON-CONFORMAN	CE (NCF	R)	<u>.,, • • •, • • • • • • • • • • • • • • •</u>	
DATE	STEP	Description of NC		Corrective Action Section		Verification	Approval	Approval
DAIL	JILP ,	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Section C	Chief Eng	QC Inspecto
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Work Order ID: 81401		*8	1401*				-		14
Parent Item: D350-636-016			350-636-0	16*					1 (
Parent Item Name: Skidtube STD w/	Training Wearplate	s, RH	1.5:50-0.50-0	110		S	tart Date:	13/03/2012	Required Date: 27/03/2012
						5	Start Qty:	1.00	Required Qty: 1.00
NAS1611-010	Purchased	No		230	Each	209.0000	8	8	
*NAS1611-010*							**	7/11211	(ele (+8) - M(+2) 0d) 0
			Location	Lo	c Qty	Loc Code			
			FP		50				_
			110915		0				_
	•		120770		50				_
			FP001		159				_
			110915		14				
			117460		8				_
			118077		1				_
			118612		3				_
			119438		47				
			120308 120986		36 50				
NAS1611-013	Purchased	No	120700	230	Each	168.0000	8	8	<u>-</u>
*NAS1611-013*	$\forall$						**	17151(	66 (18) sel 12/04/6
			<b>Location</b>	Loc	e Oty	Loc Code			
			FP001		168				_
			116582		5				<del>-</del>
			117291		2				
			117887		53				-
			119623		36			-	_
			120360 120910		22 50				_
			1.789171		211				

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Part No	:	PAR #:		egory:		R: Yes	No DQA:	Date: _	
		esolution:							
NCR:		W	ORK ORE	DER NON-CONFO	RMANCE	(NCR	)		
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Action Descrip	Section B	Sign &	Verificatio Section C	n Approval Chief Eng	Approval QC Inspector
	-		Office Ling	Office Eng			49.0	Section 1	
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Work Order ID: 81401  Parent Item: D350-636-01  Parent Item Name: Skidtube	6 STD w/ Training Wearplates,	*D3	401* 850-636-0	)16*		Start Date: 1		Required Date: 27/03/2012 Required Qty: 1.00
*NAS1149D0863J	Purchased 863.1*	No		250 Eac		•	2	D-04-09
D2744 *D2744*	Manufactured	No	Location ST298 118078 L19307 120308	Loc Qty  231  36  95  100  110  Eac	Loc Code ch 60.0000	l **		BEQQ324
D2600-3-BENT** *D2600-3-BF	Manufactured <b>NT*</b>	No	Location LG002 62715 70881 71861 78900	Loc Oty 60 1 10 7 42 110 Eac	and the second second	**		30 12/04/09
Extrusion Bent			Location 82.3 1/G 66875 73253 75021 75022 75023 81330	25 7 1 1 1	<u>Loc Code</u>			

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DATE	STEP	PR	OCEDURE C	•	Ву	Date Qty	Approval	Approva QC Inspector
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Part No	:	PAR #:	Fault Ca	tegory:	NCR: Yes	No DQA:	Date: _	
	Re	esolution:	Disposit	ion:	QA: N/C C	losed:	Date: _	
NCR:			WORK OR	DER NON-CONFORMAN	ICE (NCI	R)		
		Description of NC		Corrective Action Section		Verification	ation Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date	& Section C	Chief Eng	QC Inspecto
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Work Order ID: 81401		*8	1401*	I THE RELEASE STREET, MICH. STREET, MICH. STREET, STREET, STREET, S. S.				
Parent Item: D350-636-016			350-636-0	116*				
Parent Item Name: Skidtube STD w/	Training Wearplates	, RH	. , , , , , – , , , , , , , , , , , , ,	, 1 ( )	s	tart Date:	13/03/2012	<b>Required Date:</b> 27/03/2012
					;	Start Qty:	1.00	Required Qty: 1.00
D2743	Manufactured	No		160 Ea	ch 248.0000	8	8	
*D2743* Crossbolt Spacer						**		BE12/03/28
			<b>Location</b>	Loc Qty	Loc Code			•
			LG001	248				_
			67766	4			-	_
			68251	3				_
			73403 74445	64 1				_
			78603	76				_
			79517	100			8	-
D2739	Manufactured	No		160 Ea	ch 8.0000	1	1	
*D2739*						**		12/03/27
			Location 8150	Loc Oty 8	Loc Code			· · ·
			72155	1				_
ALS4-1032-225	5 1 1	<b>N</b> f.	80083	7	1 124 004			_
	Purchased	No		230 Eac	ch 1,134.000		4	
*AI S4-1032-225	*					**	<u> </u>	nloulot
			<b>Location</b>	Loc Oty	Loc Code			
			ST281	. 1021				-
			108696	146				_
			110768 118386	62 55				-
			118966	68				_
			120671	690				_
			ST282	113			X 4	_
			120410	100		~		-
			120451	13				-

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W/O:		WORK ORDER CHANGES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr

Part No:		PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:	
	Resolution:		Disposition:	QA: N/C Closed:	<u>.</u>	Date:	

Approval QC Inspector

NCR:			WORK ORD	DER NON-CONFORMAN	CE (NCR)			
		Description of NC		Corrective Action Section B	Verification	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspecto
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Work Order ID: 81401  Parent Item: D350-636-016			1401*							
			*D350-636-016*						·	
	v/ Training Wearplat	es, RH	ี้.วะมน-ถ.วถ-	() (O		S	tart Date:	13/03/2012	Required Date: 27/03/2012	
							Start Qty:	1.00	Required Qty: 1.00	
AN8C35A	Purchased	No		230	Each	65.0000	1	1		
*AN8C35A*							**	M	12/04/05	
			Location	<u>L</u>	oc Qty	Loc Code				
			FP002		64					
			115960		1					
			<u>117834</u>		10			<u> </u>		
			118286		53				_	
			ST346		1					
			114442		0				_	
			115188		0				<u> </u>	
AN6C44A	Purchased	No	115960	230	I Each	107.0000	4	4		
*AN6C44A* 4	rurenased			200	2441	707.0000	**	<u>u</u>	12/01/05	
			<b>Location</b>	Lo	oc Qty	Loc Code				
÷			FG		2					
			103964		2					
			ST343		105					
			120095		12					
			120143 120465		25 27					

21

120641 121013

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DATE	STEP	PRO	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector				
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Part No	:	PAR #:	Fault Categ	jory:	NCR: Yes	No DQA:	Date: _			
			Disposition	);	_ QA: N/C Clo	A: N/C Closed: Date:				
NCR:		1	WORK ORDE	ER NON-CONFORMA	NCE (NCR	)				
DATE STEP		Description of NC Section A	Initial Chief Eng	Corrective Action Secti Action Description Chief Eng	on B Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspecto		

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Work Order ID: 81401	······································	*8	1401*							14
Parent Item: D350-636-016  Parent Item Name: Skidtube STD w/	Training Wearplates	*D	350-636-0	16*			tart Date Start Qty	e: 13/03/20 v: 1.00	012	Required Date: 27/03/2012 Required Qty: 1.00
MS21083C8	Purchased	No		230	Each	85.0000	1	1		
*MS21083C8*							**	_ H	ζ,	rlodo
			<b>Location</b>	<u>La</u>	e Qty	Loc Code	•			
			FP002		1					-
			115884		1					-
			ST303		14					-
			115884		0					-
			118077 119309		1			-		-
			119309 119 <u>436</u>		2 9					- -
			119638		2			x	r I	-
			ST304		70			<del>/</del>	, ,	-
			120142		20					-
			120731		25					- -
			121011		25					_
D3631-1	Manufactured	No		230	Each	223.0000	8	U		1
*D3631-1*							**		U_	12/04/0,-
			Location	Lo	c Qty	Loc Code				
			ST072		223					
			68062		2					-
			75548		221				X 45_	
AN960C10L NAS1149C033 R	2 Purchased	No		230	Each	0.0000	4	4		
*AN960C10I * 4							**	21.12	125	5(x4) Ju Houlo.

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		Description of NC		Corrective Action Section		Verification	Approval	Approval
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Work Order ID: 8	1401	*8	140	 1 *						
Parent Item:	0350-636-016			-636-	<b>016</b> *					14
Parent Item Name:	Skidtube STD w/ Training Wearplates	, RH	. ,. ,. ,	-(), )()-(	., , , ,			art Date: tart Qty:	13/03/2012 1.00	Required Date: 27/03/2012  Required Qty: 1.00
D2745	Manufactured	No			230	Each	136.0000	8	8	
*D2745*								**	M (4)	01/07
			Location	<u>on</u>	<u>L</u>	oc Qty	Loc Code			
			FP			100				_
				<u>7951</u> 8		100				_
			FP001			36				_
				69529		1				_
				76142		1				_
NAS1149C0832R	Purchased	No		78597	230	34 Each	304.0000	1	1	_
	49C0832R*				230	Such	50000	**	U	woolos
			Location	<u>on</u>	<u>L</u>	oc Qty	Loc Code			
			ST297			304				_
				114915		304			χ(	

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NCR:			WORK ORD	ER NON-CONFORMA	NCE (NCF	₹)		
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DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date		Chief Eng	QC Inspecto

Parent Item: D350-636-016	Picklist Print March-14-12 7:48:10 AM							Page 12
Parent Item: D350-636-016	Work Order ID: 81401		*8	1401*			···	N
AN3C6A Purchased No 230 Each 623.000 4 4  *AN3C6A*  BOLT    Location   Loc Otv   Loc Code		w/ Training Wearplate	*[		16*	Start Date:	: 13/03/2012	. (
*** AN3C6A*  BOLT    Location   Loc Otc   Loc Code						Start Qty:	1.00	Required Qty: 1.00
	AN3C6A	Purchased	No		230 Each	623.0000 4	4	/
FP001	*AN3C6A*					**	$\mathcal{M}_{-}$	uloulos
111982				<b>Location</b>	Loc Qty	Loc Code		
ST351 622					1			_
111982   2								_
116419   23								_
116549   2								<del>-</del>
116704								_
117688   1								
117872   5				117619	10			<del></del>
118422   13					•			<u> </u>
119449   21     120423   133     20693   400								_
120423   133								_
MS21043-6 Purchased No 230 Each 809.0000 4 4  *MS21043-6*  NUT    Location   Loc Oty   Loc Code							77	<del></del>
*M\$21043-6* NUT    Location   Loc Oty   Loc Code								
Location   Loc Oty   Loc Code	MS21043-6	Purchased	No		230 Each	809.0000 4	4	
FG 20	*MS21043-6*					**	M	12/04/05
103693 20 ST301 789  112314 83 117887 6 118384 200				<b>Location</b>	Loc Qty	Loc Code		
ST301       789         112314       83       VU         117887       6				FG	20			<del></del>
112314       83       V         117887       6				103693	20			_
117887 6 118384 200							.,1	<u> </u>
118384 200								<del></del>
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	R	esolution:	Disposition	on:	_ QA: N/C Cld	osed:	Date: _	<u> </u>
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DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector

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			16*					
/ Training Wearplates,	RH	เ.รถน-ถ.รถ-บ	ID		St	art Date:	13/03/2012	Required Date: 27/03/2012
								Required Qty: 1.00
Manufacturad	No		250	Fach		-		/
Manuractured	140		230	Laci	00.0000		ĆO	
						^ ^		
		<b>Location</b>	Lo	c Oty	Loc Code			
		ST050		66				
							-7V	
		78835					— <i>—</i>	
Purchased	No		250	Each	85.0000	2		
						**	$\bigcirc$ 0	
							-Sh-	
		Location	Lo	c Oty	Loc Code			
		FP002		1				
		115884		1				
				14				
				0				
				2				
		119436		9				
		119638		2				
				70				
		121011		25			-0-1	
Purchased	No		250	Each	51.0000	2	2	
						**		
							10-011	1-09
		<b>Location</b>	Lo	c Qty	Loc Code	26	12-04	(-0 ( .
		ST343		51				
		118758		5			$\sim$	
		120094		42 4			_J.M	
	Manufactured  Purchased	Training Wearplates, RH  Manufactured No  Purchased No	Manufactured   No	*D350-636-016*  / Training Wearplates, RH  Manufactured No 250  Location ST050 70697 77573 77573 78835  Purchased No 250  Location FP002 115884 ST303 115884 118077 119309 119436 119638 ST304 120142 120731 121011  Purchased No 250  Location Location Location ST343 118758	*D350-636-016*  / Training Wearplates, RH  Manufactured No 250 Each    Location   ST050   66   70697   2   77573   24   40   78835   40   70697   2   77583   24   40   70697   2   77583   24   40   70697   2   77583   24   40   70   70697   2   77583   24   78835   40   70   70   70   70   70   70   70	*D350-636-016*  // Training Wearplates, RH  Some state of the process of the proc	Training Wearplates, RH	*D350-636-016*  // Training Wearplates, RH  // Training Wearplates, RH  Start Date: 13/03/2012  Start Qty: 1.00  Manufactured No 250 Each 66.0000 2 2  ***    Location   Loc Oty   Loc Code

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W/O:		1.7	WC	ORK ORDER CHANGE	S			
DATE	STEP	PRO	OCEDURE CHA		Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No <b>DQA</b> :	Date: _	
	Res	olution:	Disposition	n:	QA: N/C Cld	sed:	Date: _	<u>.</u> .
NCR:			WORK ORDE	ER NON-CONFORMAN	CE (NCR	)		
DATE	STEP	Description of NC		Corrective Action Section		Verification	Approval	Approval
DAIL	J.L.	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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**Picklist Print** 

March-14-12 7:48:10 AM

Work Order ID: 81401 \*81401\*

**Parent Item:** D350-636-016

\*D350-636-016\*

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

**Start Date:** 13/03/2012

**Required Date: 27/03/2012** 

Page 14

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured N

250

Each

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8017-04-09

			_ •	
<b>Location</b>	Loc Qty	Loc Code		
ST	-10			
ST466	47			
71856	1			
76984	36			
			ł	

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W/O:			WC	ORK ORDER CHANGI	ES					
DATE	STEP	PR	OCEDURE CHA	NGE		Ву	Date	Qty	Approvai Chief Eng / Prod Mgr	Approva QC Inspecto
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	QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
L	Х				D4168-041	350 SKIDTUBE ASSEMBLY, LH
L		X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
L			Х		D4168-043	350 SKIDTUBE ASSEMBLY, LH
Į				X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
L						
Ľ	1	1	1	1	D2739	WEB
L	8	8	_ 8	8	D2743	SPACER
L	_ 1	1	1	1	D2744	CAP
L	8	8	8	8	D2745	BUSHING
L	1		1		D3488-041	BLADE FITTING, LH
L		1		1	D3488-042	BLADE FITTING, RH
L	_4	4	4	4	D3490-1	SPACER
Ľ	4	4			D3490-3	SPACER
1			4	4.	D3490-5	SPACER
L	8	8	8	8	D3492-041	PLUG ASSEMBLY
	8	. 8			D3492-043	PLUG ASSEMBLY
E			8	8	D3492-045	PLUG ASSEMBLY
Γ	8	8	8	-8	D3631-1	WASHER
Г	7	7	7	7	D3873-1	BUSHING
	1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
L	1				D4168-1	SKIDTUBE WELDMENT, LH
E		1			D4168-2	SKIDTUBE WELDMENT, RH
L			1		D4168-3	SKIDTUBE WELDMENT, LH
E				1	D4168-4	SKIDTUBE WELDMENT, RH
	4	4	4	4	D4170-1	SPACER
L	1	1	1	1	D4171-1	BUSHING
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H	4		4		ALS4-1032-225	INSERT
F	4	4	4		AN3C6A	BOLT
╀	1 4	- 1	1 4		AN3C34A	BOLT
H		4			AN3C36A	BOLT
L	4	4	4		AN6C44A	BOLT
H	9	1	1		AN8C35A	BOLT
⊣		9 4	9		AN960C10	WASHER (OR NAS1149CO363R)
۲	.4		4		AN960C10L	WASHER (OR NAS1149CO332R)
H	5	1	1		AN960C816L	WASHER (OR NAS1149CO832R)
H	4	5	5		MS21043-3	TUN
H		4	4		MS21043-6	NUT
┞	1	1	1		MS21083C8	NUT
L	4	4	4	4	NAS1515H3L	WASHER

SHOP COPY **RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT** WITHOUT NOTICE WORK ORDER DEIYOD MLJ

12/03/14

**GENERAL NOTES:** 

8

MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).

INTERING. IMAGE OF 108-11-21-31-4 FROM D260U-3 EXTROSION (INTINE LENGTH = 120.0).

FINISH:

CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3

BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).

TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

UNITS: INCHES UNLESS OTHERWISE NOTED

BREAK SHARP EDGES: N/A
IDENTIFICATION: N/A

WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS

WELD PER DART QSI 004

FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:

MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 36 KSI

COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.

SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL

SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

7

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REV.			DESCRIPTION	BY	DATE				
DESIG	١	SC	DART AEROS	SPACE USA	.INC.				
DRAW	J /	SC		HADLOCK, WA	,				
CHECK	ED	0	DRAWING NO.		REV. A				
MFG. A	PPR.	1	D4168		SHEET 1 OF 11				
APPRO	VED	MA	TITLE		SCALE				
DE APP	R.	#-	☐ 350 SKIDTUBE	ASSEMBLY	NTS				
DATE	.10.0	8.09	THIS DOCUMENT IS PRIVATE AND CONFIDENTY NOT TO BE USED FOR ANY PURPOSE OR COP	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.  INSTORMENT OF PRIVATE, AND CONFIDENTIAL, AND IS SUPPLIED ON THE DOPRESS CONDITION THAT IT IS  NOT TO BE USED FOR MAY PURPOSE OR COMPLICATION TO AN OTHER PORTION WITHOUT WATETIES PRESSED FROM MAY FAMOUR AND AS INC.					
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	Reso	olution:	Disposition	ı:	QA: N/C CI	osed:	Date: _	
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DATE	STEP	Description of NC	<u> </u>	Corrective Action Section		Verification	Approval	Approval
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81401

D4168-041 350 SKIDTUBE ASSEMBLY, LH

D4168-042 350 SKIDTUBE ASSEMBLY, RH

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DESIGN	SC	DART AEROSPACE USA.	NC.
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DE APPR.	-#-	350 SKIDTUBE ASSEMBLY	NTS
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NCR:			WORK ORDE	R NON-CONFORMAN	CE (NCF	?)		<u> </u>
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DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date		Chief Eng	QC Inspecto
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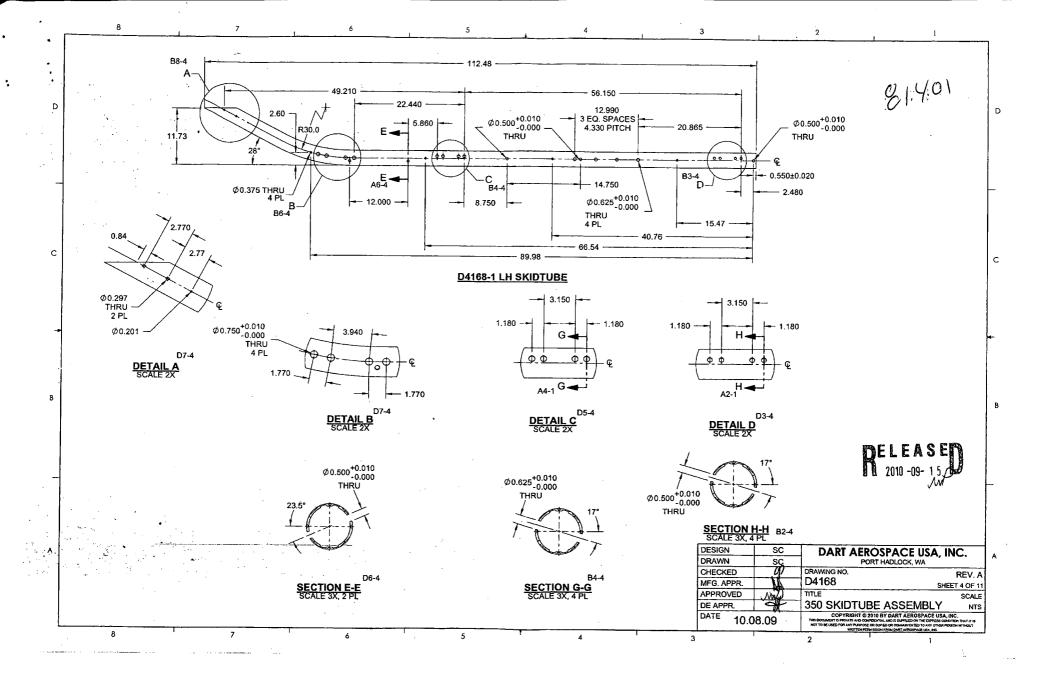
D4168-043 350 SKIDTUBE ASSEMBLY, LH

D4168-044 350 SKIDTUBE ASSEMBLY, RH

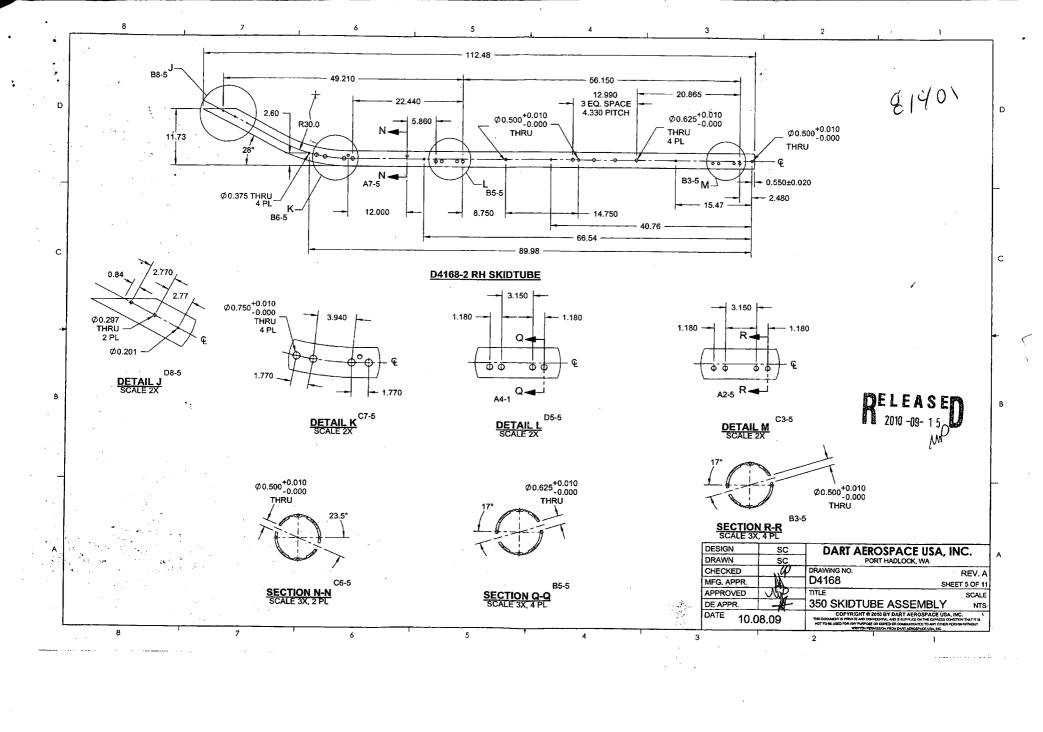
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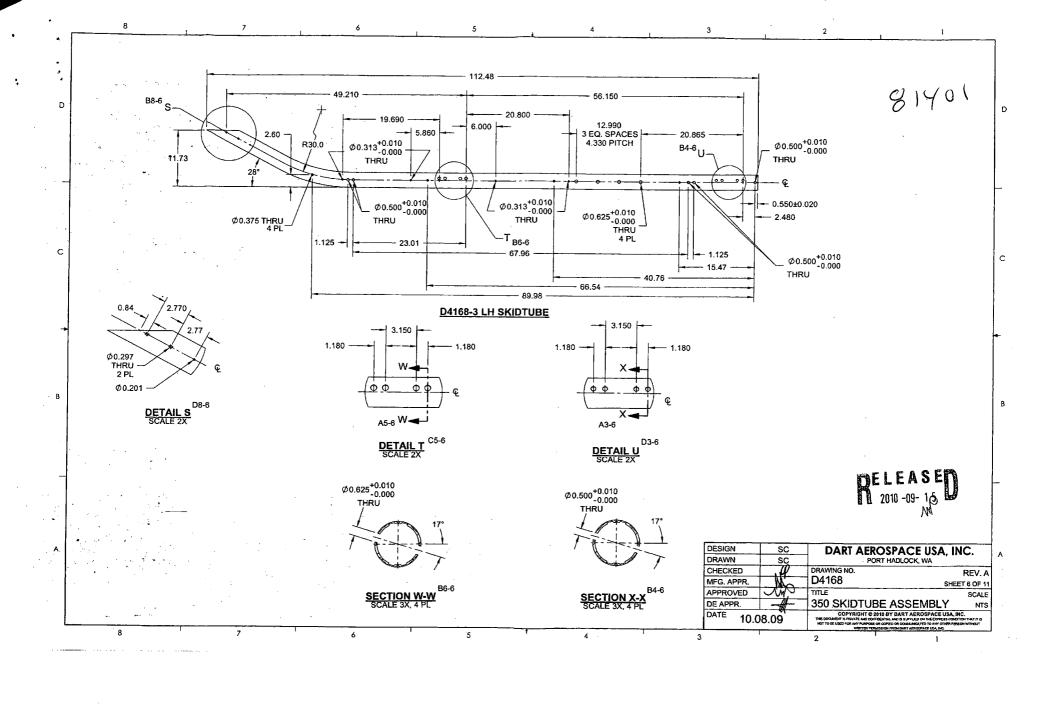
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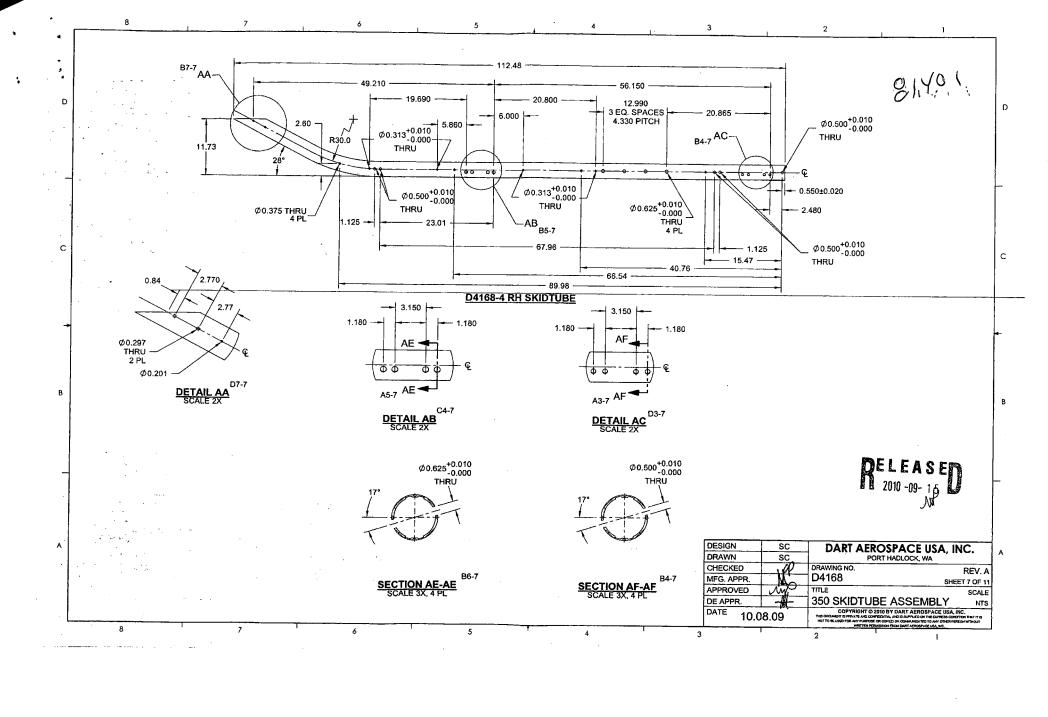
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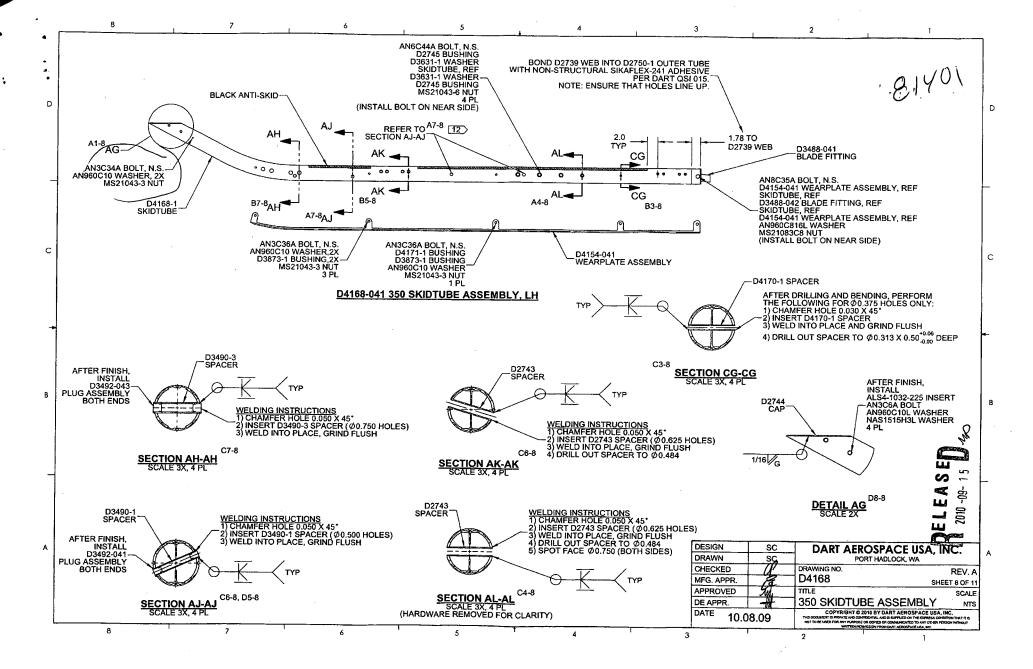
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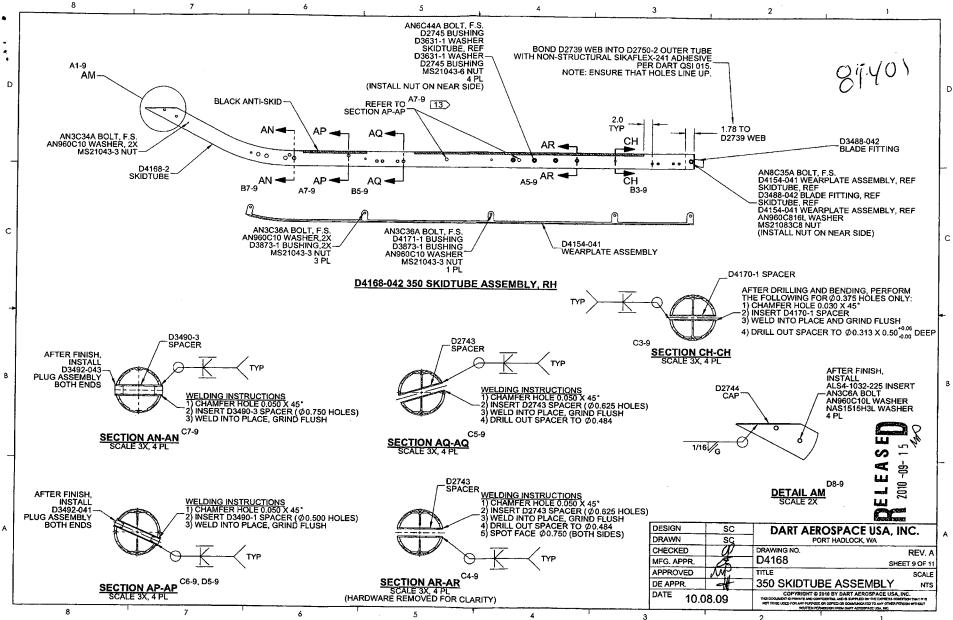
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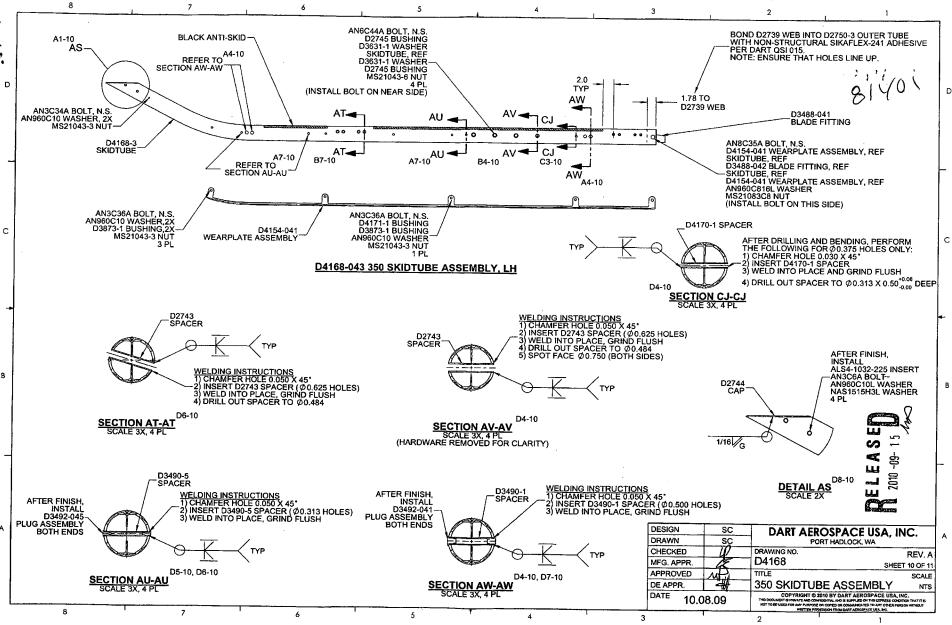


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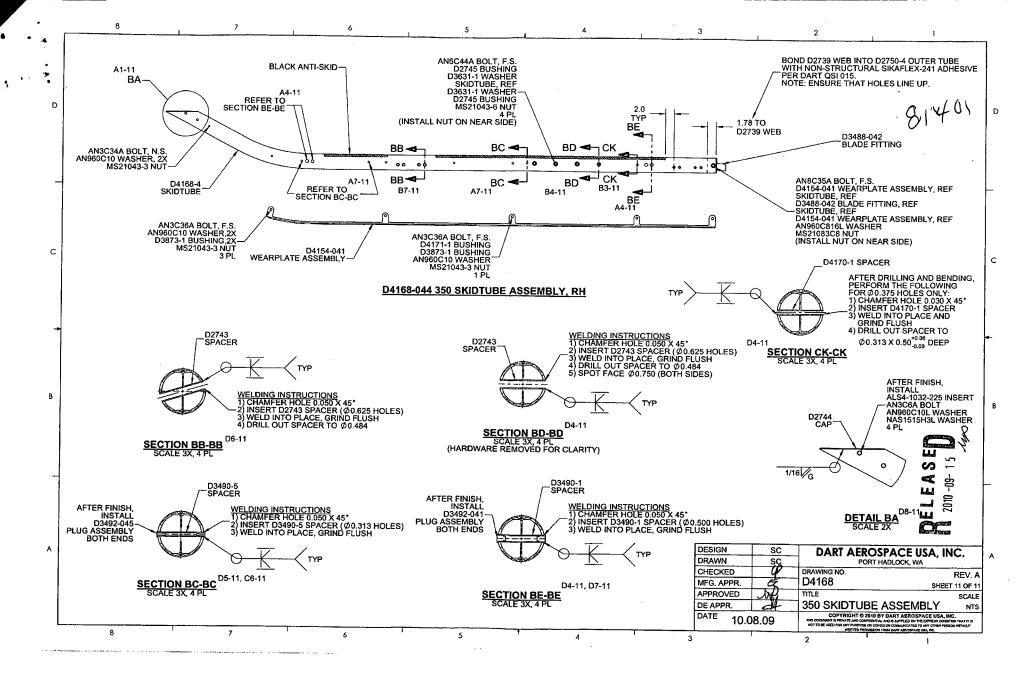


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Page 1

March-14-12 7:48:06 AM

Item ID:

D350-636-016

Accept

\*N900040100\*

**Revision ID:** 

Item Name:

Skidtube STD w/ Training Wearplates, RH

**Start Date:** 

13/03/2012

Start Oty: 1.00 Req'd Oty: 1.00

**Cust Item ID:** 

**Customer:** 

Tool ID

Reference:

Approvals:

Sequence ID/

Operation

Process Plan: MLJ Date: 17/03/14 Tooling:

Date:

Date:

Run

Reject

Qty

Accept

Otv

QC:

**Required Date: 27/03/2012** 

SPC (Y/N):

Set Up/

**Run Hours** 

Date:

Tool # Plan

Code

Number Stamp

Insp.

Work Center ID	Description			
Draw Nbr	Revision Nbr			
D3492	С			
D4168	A			
IIN-D350-636	I			

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Document Control

DOCUMENT CONTROL

Memo

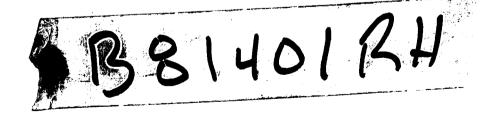
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Photocopy blue file and type labels per PPP D350-636-016 CHG 002

of for a 12/04/09

Reject

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NO. **186** 

## AWS D17.1.2001 QUALIFICATION TEST RECORD

2	j.	Ell. di			
Name: <u>Da</u>	relay	Elliott			
Job number:	8218	9			
Part number:	1350	-636-01	2		
Description:	Skil	d tube			
Welding Process	: Tig[/	Mig[]			•
Base materiel:	Alum	<u>.</u> .			
Current: AC[]	DC[ ]		•	•	

## TEST REQUIREMENTS AND RESULTS

		• •
Visual: Penetration:	pass[4]	fail[ ] fail[ ]
UNACCEPTABLE		
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[4] pass[4] pass[4] pass[4] pass[4]	fail[ ] fail[ ] fail[ ]
Qualifier Jawa Lund Welder Barlay Elliot		est Coupon 12-04-03 est Coupon 12-04-03
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:  Qualifier	pass[/] pass[/] pass[/] pass[/] pass[/]	fail[] fail[] fail[] fail[] fail[] fail[]

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

work Order ID 81401 March-14-12 7:48:06 AM Item ID: Revision ID: Skidtube STD w/ Training Wearplates, RH Item Name: 13/03/2012 Start Date: Req'd Qty: 1.00 **Required Date: 27/03/2012** 

Accept

\*N900040100\*\*

Setup Start

Start Qty: 1.00

Cust Item ID:

Tool ID

**Customer:** 

Reference:

Date:

Tooling:

Date:

Approvals:

Process Plan:

Date:

Stop

QC:

Date:

SPC (Y/N):

Tool#

Reject

Sequence ID/ Work Center ID Operation Description Set Up/ Run Hours

Plan Code Accept Qty

Run

Reject **Qty** 

Insp. Number Stamp

110

\*110\*

Skidtubes

Skidtubes

Skidtubes

0.00

0.00

Memo 1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

- 3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500",  $\,$ deburr, section R-R
- 4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R
- 5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J
- 6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)
- 7- Clecko DT8863B on second side of tube and drill pilot holes for detail K. \*\*\*SECOND SIDE\*\*\*
- 8-Drill most FWD wearplate hole using DT9678 locating of 66.54" hole
- 9-Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168

10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: M/XE/WY

CX 12104109